REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

The applicant and the undersigned wish to thank Examiner Cottingham for the courtesies extended during the Interview of November 16, 2004. The arguments presented during the interview are repeated hereinbelow for the record. The amendment suggested by the Examiner, to make explicit that by "through hole" it is meant that the hole extends completely through the resinous portion, has been made to claims 3, 6 and 14. Further, as also discussed during the interview, claim 11 has been amended to incorporate the limitations of dependent claim 17 such that the shaft provided according to the invention has a non-circular cross-section in plan view (looking at the shaft from the end).

Claims 2-16 remain pending. Claims 2-10 and 13 have previously been allowed by the Examiner.

Claims 3-8, 11-12 and 14-17 were rejected under 35 USC 102(b) as being anticipated by Japanese Patent Document No. 62-147709 (JP '709). Applicant respectfully traverses this rejection.

JP '709 is directed to an assembly wherein an attaching member, such as a bracket 15, is attached to a composite-resin molded product 11 by threading screws 16 into embossed portions 13. As is evident from the English language summary and the illustrations, JP '709 teaches filling a fluid adhesive in the attachment hole 17 of the embossed portion 13 so that the fluid adhesive will permeate between the screw and the attachment hole and into cracks that form in the inner surface of the attachment hole. As is clear from Figure 2 of JP '709, the embossed portion has an attachment hole as defined as a single diameter receptacle for the screw. Furthermore, the hole 17 does not extend through the resinous portion.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1574 (Fed. Cir. 1986). While other references may be used to interpret an allegedly anticipating reference, anticipation must be found in a single reference. See, e.g., Studiengesellschaft Kohle, G.m.b.H. v. Dart Indus., Inc., 726 F.2d 724, 726-27 (Fed. Cir. 1984). The absence of any element of the claim from the cited reference negates anticipation. See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715 (Fed. Cir. 1984). Anticipation is not shown even if the differences between the claims and the prior art reference are insubstantial and the missing elements could be supplied by the knowledge of one skilled in the art. See, e.g., Structural Rubber Prods., 749 F.2d at 716-17.

Claim 3 specifically requires that the resinous portion have a round through hole. The Examiner characterizes portion 13 of JP '709 as having a round through hole. However, hole 17 is not a through hole but rather is an attachment hole that does not extend through the component. In this respect, in using the term "through hole" applicant is using the common and well accepted definitions of "hole" and "through". "Hole" is defined as "an opening into or through something" (see attached definition). Thus, there are different types of holes, holes that open into something and holes that open through something. "Through" is defined as "from end to end of, or from side to side of; from one surface or limit of to the opposite; into and out of at the opposite", etc. (see attached definition). By reciting in claim 3 that there is a "through hole", a particular type of hole (a through hole) has been specified as opposed to simply an opening in the resinous portion. It is clear from the disclosure of JP '709 that the attachment hole 17 is not a through hole as specifically recited in applicant's claims. It is respectfully submitted that it is inappropriate for the Examiner to disregard the limitation "through" which has been specifically selected to define and limit the type of hole provided according to the claimed invention. Therefore, claim 3 is not anticipated.

As suggested by the Examiner, claims 3, 6 and 14 have been amended above to explicitly state the meaning of "through hole".

The screw fastening structure as claimed in claim 3 also specifically requires that the resinous portion have a clearance inlet hole around an inlet of the through hole and that the inner diameter of the clearance inlet hole of the resinous portion be larger than the outer diameter of the male threaded portion. The Examiner has characterized "inlet 15" as meeting the clearance inlet hole limitation of claim 3. However, claim 3 specifically provides that the resinous portion has the clearance inlet hole. In JP '709, a hole is defined in the attaching member 15, such as a bracket, not the resinous portion. Therefore claim 3 is not anticipated.

Claim 4 specifically requires that the clearance hole have a tapering shape that becomes smaller in the screwing direction of the screw. The Examiner suggests that the intersection of 15 and 13 is a tapering shape. Applicant respectfully disagrees in two respects. First of all, claim 4 characterizes the inlet hole (itself) as having a tapering shape. Claim 4 is not characterizing the combination of or the interface of the clearance hole and the through hole. Thus, the Examiner's suggestion that the step between the bracket 15 and the attachment hole 17 constitutes a taper is inconsistent with the limitations of claim 4. Second, the Examiner's characterization is also inconsistent with the definition of taper ("become gradually smaller toward one end" – see attached definition) which is already explicitly recited therein. Thus, claim 4 is not anticipated by JP '709.

Claim 5 specifies that the resinous portion has a through hole and the length of the male threaded portion of the screw is shorter than the length of the through hole. As noted above, JP '709 does not disclose a resinous portion having a through hole. Furthermore, the attachment hole taught in JP '709 is shorter than the threaded shaft. This is evident from a comparison of Figure 2, where the bottom of attachment hole 17 is flat, and Figure 4 where the bottom defined by the screw is pointed or tapered. It is

evident from a comparison of these illustrations that the threaded portion of screw 16 is longer than the attachment hole 17 is deep, so that the tip end of the screw will penetrate the resinous end of the pre-formed attachment hole. Thus, neither the through hole limitation nor the relative length limitation of claim 5 are anticipated by nor obvious from JP '709.

Claim 6 again requires that the resinous portion have a through hole and also have a clearance portion. In this case, however, claim 6 requires that the clearance portion be around an outlet of the through hole. As noted above, JP '709 does not teach or suggest a through hole. Moreover, because the hole is not a through hole, there is no outlet end of the hole. Even if the inlet end of the hole is considered "an outlet", there is no clearance portion because the structure identified as having "outlet 15" is actually a bracket and not "the resinous portion" so that the resinous portion does not have a clearance portion as claimed. Note in this respect that applicant is not merely claiming that "the screw fastening structure" includes a through hole and a clearance, but rather that the resinous portion has the through hole and that the resinous portion has a clearance portion. Because JP '709 does not teach or suggest such a resinous portion, claim 6 is not anticipated.

In regard to claim 7, as noted above, the resinous portion of JP '709 does not have a clearance portion and likewise does not have a clearance portion having a diameter larger that the outer diameter of the male-thread portion.

Claim 8 specifies that the clearance portion is formed by a chamfered outlet portion. The Examiner has characterized the interface of bracket 15 and resinous portion 13 as a "chamfered outlet portion". It is respectfully submitted, however, that a right angle interface as suggested by the Examiner does not constitute a chamfered portion. In this regard, a chamfer refers to two surfaces meeting at an angle different from 90 degrees (see attached definition). Thus, by definition a chamfer is not 90 degrees and the Examiner's suggestion that the interface of the bracket and the

resinous portion constitutes the chamfer ignores the plain meaning of the terminology used in applicant's claims. Thus, claim 8 is not anticipated by JP '709.

Claim 11 specifies that the male threaded portion of the screw has a non-circular shape in cross-section. The Examiner characterizes JP '709 as teaching a male-threaded portion that is non-circular shape in cross-section because of the presence of the threads. It is respectfully submitted that it is conventional for the cross-sectional shape of a threaded structure to be characterized by the cross-sectional shape of the shaft, not the threads (see attached Figs 1 and 2 from USP 4,161,132 as an example. Although it is clear that the discontinuous thread extends around the entire circumference of the thread, so that any cross-section would intersect at least a portion of the thread, the cross section illustrated in Figure 2 depicts only the shaft in cross-section, not the threads, so that a circular cross section is shown irrespective of the presence of threads.)

Also note in this respect that Figures 2 and 4 of JP '709 only schematically illustrate the threads so that it would be understood that the cross-sectional configuration of the threaded shaft would correspond to the shape of the shaft with the threads being considered inconsequential. Even the threaded structure more specifically illustrated in Figure 1 of JP '709 would not be triangular shape in cross-section because the thread would presumably only cross the cross-sectional plane at one limited area around the circumference as, e.g., a spike or limited projection. This limited projection would not be considered by the skilled artisan to give the threaded shaft a non-circular shape in cross-section. It would still be generally circular, albeit with a protruding spike. It certainly would not be triangular shaped because it would not have three apexes. Thus, the Examiner's suggestion that the threads of JP '709 would be considered to impart a non-circular shape on the male threaded portion is completely contrary to the conventional manner in which screw cross-sections are depicted and threads are illustrated.

For all the reasons advanced above, it is respectfully submitted that it is improper for the Examiner to characterize the conventional screw of JP '709 as having a non-circular shape in cross-section, and it is certainly clear that the shape of the threaded shaft is not triangular as specified in claim 12. Therefore, neither claim 11 nor claim 12 is anticipated by JP '709. Further, as discussed during the interview, claim 11 has been amended to be specifically limited to plan view as opposed to cross-section, as was previously recited in claim 17, so that the Examiner's interpretation of the cross-section of a threaded structure is not relevant. There is clearly no teaching in JP '790 of a threaded shaft that is non-circular in plan view.

Claim 14 also requires that the resinous portion have a through hole. Therefore, claim 14 is patentable for the same reasons as claim 11 and for the additional reason that the hole is limited to a through hole. It is further respectfully noted that although claim 14 has been characterized as a product by the process claim, claim 14 is not a product by the process claim. It has been simply specified that the adhesive is not cut into by the male threaded portion but rather hardens after the male threaded portion is engaged with the through hole. In any event, claim 14 is not anticipated for the reasons advanced above because JP '709 does not teach a male threaded portion having a non-circular shape and does not teach a resinous portion having a through hole.

In regard to claim 15, the Examiner characterizes JP '709 as teaching a non-threaded portion at the tip of the screw. Applicant respectfully disagrees because it is clear that, within the limits of the draftsman's capability, the screw threads have been shown as extending along the entire length of the shaft in JP '709. Even if JP '709 is considered to teach a non-threaded portion, it does not project from the outlet of the through hole. Indeed, JP '709 teaches that the tip of the screw is actually embedded in the resinous portion so that there is no projection from an outlet of a through hole. Thus, claim 15 is not anticipated either.

Claim 16 specifies that the male threaded portion has a length longer than the length of the through hole. In rejecting claim 5, the Examiner has asserted that the threaded portion is shorter than the length of the hole. Now in rejecting claim 16, the Examiner asserts that the threaded portion is longer than the hole. With all due respect, the Examiner cannot have it both ways. In any event, JP '709 does not teach a through hole and there is no teaching of a non-threaded portion that projects from a through hole. Therefore, claim 16 is not anticipated either.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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Definition: hole

Search dictionary for hole

Source: *WordNet (r) 1.7*

hole
n 1: an opening into or through something
2: an opening deliberately made in or through something
3: one playing period (from tee to green) on a golf course; "he played 18 holes" [syn: golf hole]
4: an unoccupied space
5: a depression hollowed out of solid matter [syn: hollow]
6: a fault; "he shot holes in my argument"
7: informal terms for a difficult situation; "he got into a terrible fix"; "he made a muddle of his marriage" [syn: fix, jam, mess, muddle, pickle, kettle of fish]
8: informal terms for the mouth [syn: trap, maw, yap, gob]
v 1: in golf: hit the ball into the hole [syn: hole out]
2: make holes in

Source: *Webster's Revised Unabridged Dictionary (1913)*

Hold \Hold\, v. t.

To hold up. To stop in order to rob, often with the demand to hold up the hands. [Colloq.] Hole \Hole\, n. (Games)
(a) A small cavity used in some games, usually one into which a marble or ball is to be played or driven; hence, a score made by playing a marble or ball into such a hole, as in golf.
(b) (Fives) At Eton College, England, that part of the floor of the court between the step and the pepperbox.

Hole \Hole\, n. [OE. hol, hole, AS. hol, hole, cavern, from hol, a., hollow; akin to D. hol, OHG. hol, G. hohl, Dan. huul hollow, hul hole, Sw. h[*a]l, Icel. hola; prob. from the root of AS. helan to conceal. See Hele, Hell, and cf. Hold of a ship.]
1. A hollow place or cavity; an excavation; a pit; an opening in or through a solid body, a fabric, etc.; a perforation; a rent; a fissure.

> The holes where eyes should be. --Shak.
>
> The blind walls Were full of chinks and holes. --Tennyson.
>
> The priest took a chest, and bored a hole in the lid. --2 Kings xii. 9.

2. An excavation in the ground, made by an animal to live in, or a natural cavity inhabited by an animal; hence, a low, narrow, or dark lodging or place; a mean habitation. --Dryden.

> The foxes have holes, . . . but the Son of man hath not where to lay his head. --Luke ix. 58.

Syn: Hollow; concavity; aperture; rent; fissure; crevice; orifice; interstice; perforation; excavation; pit; cave; den; cell.

Hole and corner, clandestine, underhand. [Colloq.] ``The wretched trickery of hole and corner buffery.'' --Dickens.

Hole board (Fancy Weaving), a board having holes through which cords pass which lift certain warp threads; -- called also compass board.

Hole \Hole\ (h[=o]l), a.
Whole. [Obs.] --Chaucer.

Hole \Hole\, v. t. [AS. holian. See Hole, n.]
1. To cut, dig, or bore a hole or holes in; as, to hole a post for the insertion of rails or bars. --Chapman.

2. To drive into a hole, as an animal, or a billiard ball.

Hole \Hole\, v. i.
To go or get into a hole. --B. Jonson.

Source: *The Free On-line Dictionary of Computing (2003-OCT-10)*

hole

<electronics> The absence of an electron in a semiconductor material. In the electron model, a hole can be thought of as an incomplete outer electron shell in a doping substance. Holes can also be thought of as positive charge carriers; while this is in a sense a fiction, it is a useful abstraction.

(1995-10-06)

Source: *Jargon File (4.3.1, 29 Jun 2001)*

hole n. A region in an otherwise flat entity which is not actually present. For example, some Unix filesystems can store large files with holes so that unused regions of the file are never actually stored on disk. (In techspeak, these are referred to as `sparse' files.) As another example, the region of memory in IBM PCs reserved for memory-mapped I/O devices which may not actually be present is called `the I/O hole', since memory-management systems must skip over this area when filling user requests for memory.

Definition: through

Search dictionary for through

Source: *WordNet (r) 1.7*

through
adj 1: having finished or arrived at completion; "certain to make history before he's done"; "it's a done deed"; "after the treatment, the patient is through except for follow-up"; "almost through with his studies" [syn: done, through with]
2: of a route or journey etc.; continuing without requiring stops or changes; "a through street"; "a through bus"; "through traffic" [syn: through]
adv 1: from one end or side to the other; "jealousy pierced her through"
2: from beginning to end; "read this book through"
3: over the whole distance; "this bus goes through to New York"
4: to completion; "think this through very carefully!"
5: in diameter; "this cylinder measures 15 inches through"
6: throughout the entire extent; "got soaked through in the rain"; "I'm frozen through"; "a letter shot through with the writer's personality"; "knew him through and through"; "boards rotten through and through" [syn: through and through]

Source: *Webster's Revised Unabridged Dictionary (1913)*

Through \Through\, prep. [OE. thurgh, [thorn]urh, [thorn]uruh, [thorn]oruh, AS. [thorn]urh; akin to OS. thurh, thuru, OFries. thruch, D. door, OHG. durh, duruh, G. durch, Goth. [thorn]a['i]rh; cf. Ir. tri, tre, W. trwy. [root]53. Cf. Nostril, Thorough, Thrill.]
1. From end to end of, or from side to side of; from one surface or limit of, to the opposite; into and out of at the opposite, or at another, point; as, to bore through a piece of timber, or through a board; a ball passes through the side of a ship.

2. Between the sides or walls of; within; as, to pass through a door; to go through an avenue.

> Through the gate of ivory he dismissed His valiant offspring. --Dryden.

3. By means of; by the agency of.

> Through these hands this science has passed with great applause. --Sir W. Temple.
>
> Material things are presented only through their senses. --Cheyne.

4. Over the whole surface or extent of; as, to ride through the country; to look through an account.

5. Among or in the midst of; -- used to denote passage; as, a

fish swims through the water; the light glimmers through a thicket.

6. From the beginning to the end of; to the end or conclusion of; as, through life; through the year.

Through \Through\, adv.

1. From one end or side to the other; as, to pierce a thing through.

2. From beginning to end; as, to read a letter through.

3. To the end; to a conclusion; to the ultimate purpose; as, to carry a project through.

Note: Through was formerly used to form compound adjectives where we now use thorough; as, through-bred; through-lighted; through-placed, etc.

To drop through, to fall through; to come to naught; to fail.

To fall through. See under Fall, v. i.

Through \Through\, a.

Going or extending through; going, extending, or serving from the beginning to the end; thorough; complete; as, a through line; a through ticket; a through train. Also, admitting of passage through; as, a through bridge.

Through bolt, a bolt which passes through all the thickness or layers of that which it fastens, or in which it is fixed.

Through bridge, a bridge in which the floor is supported by the lower chords of the tissues instead of the upper, so that travel is between the trusses and not over them. Cf. Deck bridge, under Deck.

Through cold, a deep-seated cold. [Obs.] --Holland.

Through stone, a flat gravestone. [Scot.] [Written also through stane.] --Sir W. Scott.

Through ticket, a ticket for the whole journey.

Through train, a train which goes the whole length of a railway, or of a long route.

Definition: taper

Search dictionary for taper

Source: *WordNet (r) 1.7*

taper
n 1: a convex shape that narrows toward a point
2: the property possessed by a shape that narrows toward a point (as a wedge or cone)
3: a loosely woven cord (in a candle or oil lamp) that draws fuel by capillary action up into the flame [syn: wick]
4: stick of wax with a wick in the middle [syn: candle, wax light]
v 1: diminish gradually; "Interested tapered off"
2: give a point to; "The candles are tapered" [syn: sharpen, point]

Source: *Webster's Revised Unabridged Dictionary (1913)*

Taper \Ta"per\, v. i. [imp. & p. p. Tapered; p. pr. & vb. n. Tapering.]
To become gradually smaller toward one end; as, a sugar loaf tapers toward one end.

Taper \Ta"per\, v. t.
To make or cause to taper.

Taper \Ta"per\, n. [AS. tapur, tapor, taper; cf. Ir. tapar, W. tampr.]
1. A small wax candle; a small lighted wax candle; hence, a small light.

Get me a taper in my study, Lucius. --Shak.

2. A tapering form; gradual diminution of thickness in an elongated object; as, the taper of a spire.

Taper \Ta"per\, a. [Supposed to be from taper, n., in allusion to its form.]
Regularly narrowed toward the point; becoming small toward one end; conical; pyramidical; as, taper fingers.

Definition: chamfer

Search dictionary for chamfer

Source: *WordNet (r) 1.7*

chamfer
n : two surfaces meeting at an angle different from 90 degrees
[syn: bevel, cant]
v 1: cut a bevel on; shape to a bevel; "bevel the surface" [syn: bevel]
2: cut a furrow into a columns [syn: furrow, chase]

Source: *Webster's Revised Unabridged Dictionary (1913)*

Chamfer \Cham"fer\, n. [See Chamfron.]
The surface formed by cutting away the arris, or angle, formed by two faces of a piece of timber, stone, etc.

Chamfer \Cham"fer\, v. t. [imp. & p. p. Chamfered; p. pr. & vb. n. Chamfering.]
1. (Carp.) To cut a furrow in, as in a column; to groove; to channel; to flute.

2. To make a chamfer on.